Tutor's review of Master thesis

Student: Iakov Belskiy

Topic: Analysis of development and economic effectiveness of E-mobility

Student was dealing with attractive, but complex and complicated issue of E-mobility and its infrastructure business model. The thesis focused on analysis of background of e-mobility development, represented by regulatory framework on both EU and member state level, also dealing with positions of major stakeholders involved in e-mobility development. The key part of the thesis analysed various business models that can be used in developing public charging infrastructure and defined a case study where calculations of effectiveness of installation and operation of public charging infrastructure were performed and relevant conclusions were formulated.

The master thesis is clearly structured, starting with more general background that is necessary to understand the issue of e-mobility. The work follows the given instructions and covers all necessary aspects. Although to cover the general background is not easy due its complexity and complexity of regulatory framework, the key issues on both EU and member states level were identified. E-mobility is relatively new issue and some information are not easily publicly available or are often biased by PR and marketing, especially by OEMs (car manufacturers). However, student has covered all major stakeholders, including utility sector and analysed the background in necessary detail for his thesis. Also the member states compared in the master thesis were selected well and are a representative sample of e-mobility strategies. Such comparison is again not easy as strategic plans are under development in number of member states and clear and comparable information are not easily available.

Theoretical business models for operation of charging infrastructure are clearly described and are a good starting point for discussions about its practical implementation.

The key part of the thesis – economic effectiveness – is again complicated by the lack of "general" or "average" data necessary for robust business model. Student has solved this issue by defining number of assumptions, with the intention to have as realistic NPV calculation as possible, but trying to avoid that the model will be overcomplicated and calculations will not be transparent due to absence of data. The focus on DC charging is logical as this technology will most probably prevail as a standard for public infrastructure. The advantage of the model is that it can be made more complex to incorporate additional factors as a next step.

General comments:

- All partial tasks of the thesis were fulfilled
- Student proved the ability to work individually, having a clear picture of the desired result
- The thesis was consulted with tutor regularly
- References used throughout the thesis are properly quoted

- The selection of references is good, providing the necessary starting point for the analysis.
- The analysis of effectiveness of E-mobility is provided on nearly professional level, analysing the key drivers of the business case for infrastructure development and operation. It represents a good starting point for further work, where additional effects and factors can be incorporated into the model.
- The formal part of the thesis (language and visualisation) could be improved, also some conclusions and partial outputs could be formulated more clearly, but it does not have a major impact of the quality of the content.

Conclusion:

Based on information given above, I recommend evaluating the thesis by grade

- B (very good) -

Prague 13.6.2016

Tomáš Chmelík